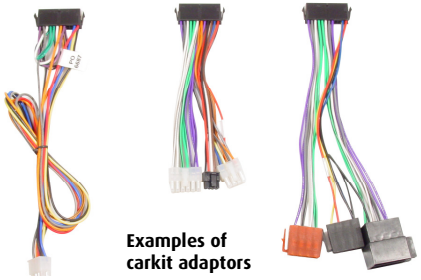
Audio2Car
The professional mute

Audio2Car harness

For a complete installation normally a minimum of two item numbers are required.
Audio equipment with build in mute function:
If the Audio equipment is equipped with a build in mute function two item numbers are required. The 1st item number is the Audio2Car harness. The 2nd item is a Audio2Car carkit adaptor.
Audio equipment without build in mute function:
If the Audio equipment is not equipped with speaker relays, a Mute-box from Kram Drive & Talk range can be added together with a Drive & Talk carkit adaptor.

Audio2Car Carkit Adaptors

Several different carkit adaptors are available for Carkits that have a build in mute function for 1 or 4 Speakers.
Please see the complete range of Audio2Car carkit adaptors at our website:
www.kram.dk



Examples of carkit adaptors

Audio2Car Accessories examples

ISO adaptor

This ISO adaptor AA010 is a universal adaptor for all carkits with ISO connectors. Adding this adaptor turns your Audio2Car cable into a Kram ISO2CAR solution.

IGNIBOX adaptor

This IGNIBOX ITEM no. "I" creates an artificial ignition source. Use this adaptor if your Audio2Car cable does not include an ignition source. This adaptor is plug and play with your Audio2Car cable.

Drive & talk Mute-box range

Several different types of mute-boxes are available. Adding one of the boxes will turn your Audio2Car cable into a Kram Drive & Talk solution. Therefore you will also need a Drive & Talk carkit adaptor. Please see the Complete Drive & Talk range at our website:
www.kram.dk

Audio2Car
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Product Description

The Audio2Car range allows OEM car speakers to be used for aftermarket Audio equipment.

Audio2Car allow the car speakers to be used for audio playback from aftermarket Audio equipment. For a complete installation two or more item numbers are required. See description at the last page.

Speaker-function: This is achieved by connecting Audio equipment with build-in speaker relay function or by using a Mute-box from the Kram range. This way the radio sound is muted and the sound from the aftermarket Audio equipment is sent through the car speakers. You will achieve a perfect sound without interference from the car radio.

Mute wire function: The mute-wire is connected from the 24 pin connector to the most used mute position for the car model. This enables the use of the radios built in mute function. If the radio does not have such function or the mute exists in a different connector than the ones used on the Audio2Car harness, the mute wire can be found in a yellow fly-wire fitted with a bullet connector.

Power supply: All Audio2Car cables have an integrated power supply for the Audio equipment in the 24 pin connector. The constant 12v and the ground supply are normally sourced from the radio supply. This way power supply of most Audio Equipment can be achieved without cutting the cars wiring loom. The constant 12V wires are red and the ground wires are black.

Ignition supply: If an ignition source is available in the radio connector then it will normally also be available in the 24 pin connector. If an ignition source is not available a constant 12V source is connected to the Ignition pin via bullet connectors. If a real ignition is required for the chosen Audio Equipment, an IGNIBOX item no. "I" can be connected to create an artificial ignition. Or an ignition source found elsewhere can be connected to the bullet with the blue wire. The 12V ignition wires in the Audio2Car cable are blue.

Aux integration
The 4 pin connector on the Audio2Car harness allow a Kram Aux solution to be connected. This will allow the use of the car sound system amplifier for Music playback and thereby achieving higher sound quality.

Technical Specifications

Description:	L-shaped with bullet connections for Ground, Constant 12v and Ignition.
Normal Wire dimensions :	AWG 18 for power wires, AWG 20 for all other wires
Standard Fuse sizes:	2 Amp for constant supply, 1 Amp for Ignition supply
Maximum Fuse size:	7,5 Amp for constant supply, 7,5 Amp for Ignition supply
Maximum output pr. speaker:	100 Watt RMS / 200 Watt music power @ 4 Ohm
Size:	400 x 400 mm

Configuration chart for 24 pin connector:

12V Const.	12V IGN	Line Out L-	Line Out R-	Radio RR+	Radio RF+	Radio LF+	Radio LR+	Spk LR+	Spk LF+	Spk RF+	Spk RR+
GND	Mute	Line Out L+	Line Out R+	Radio RR-	Radio RF-	Radio LF-	Radio LR-	Spk LR-	Spk LF-	Spk RF-	Spk RR-

Connector seen from cable entry side

EN003-V01

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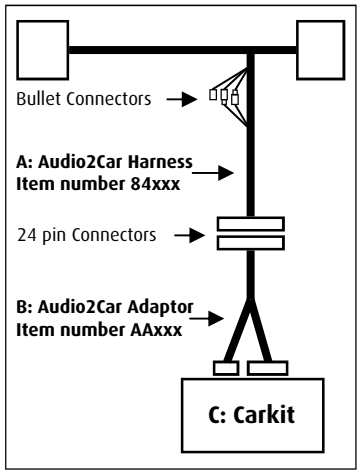
Installation description
for car specific Audio2Car harness

Needed items:
A: Audio2Car harness.
B: Audio2Car carkit adaptor (or Mute-box from our Drive & Talk range see last page).
C: Carkit.
Note: The Carkit **C** and Audio2Car carkit adaptor **B** bought separately.

Installation:
1st: Remove the key from the ignition barrel. This is done to avoid error messages on the cars electrical system. **Note:** On some cars it may even be necessary to remove the ground pole from the car battery.

2nd: Locate & uncover the radio / amplifier unit. The radio / amplifier unit is normally found in the front of the car where the CD-player or radio tuner is located.



Cars with special radio / amplifier locations:

- **BMWs with navigation system** often has the radio unit behind side panel in boot. For these cars an Audio2Car extension cable item no. AE5 is also required.
- **BMW X5** has the radio unit located in the spare wheel well. An Audio2Car extension cable item no. AE5 is also required.
- **Mercedes A, B, C & CLK class with sound system upgrade (code 810)** install on amplifier behind right side panel in boot just behind the rear wheel arch. An Audio2Car extension cable item no. AE5 is also required.
- **Mercedes CL & S class with BOSE sound system (code 810)** install on amplifier placed in the left side of the boot below the navigation unit and CD changer unit. It may be necessary to completely remove the left boot interior panel. An Audio2Car extension cable item no. AE5 is also required.
- **Mercedes ML & GL class with Harman Kardon sound system (code 810)** Install on amplifier placed under the drivers seat. Under the carpet there is small room where the amplifier is located. It may be necessary to completely remove the drivers seat. An Audio2Car extension cable item no. AE4 is also required.
- **Renault cars** install on CD-player in front, on amplifier located inside dash behind/above glove box, below front seat or in the boot. An Audio2Car extension cable may be required. Please check the complete cable list for a description of the radio / amplifier unit location for the specific car model.
- **Volvo C30 with High Performance sound system** install on amplifier behind rear side speaker. right side in left hand drive cars and left side in right hand drive cars. An Audio2Car extension cable item no. AE5 is also required.
- **Volvo S40 & V50 2004- with High Performance sound system** install on amplifier unit behind side panel in boot. An Audio2Car extension cable item no. AE5 is also required.
- **Volvo XC60, V70, XC70, S80, XC90 from 2006- with High Performance sound system** install on amplifier below front passenger seat. An Audio2Car extension cable item no. AE4 is also required.

3rd: Connect the car-specific cable. Disconnect the connector on the radio / amplifier unit and insert the Audio2Car harness between the connector and radio / amplifier unit. **Note:** Some radios may require a security code to be entered after the power / connectors have been removed.

4th: Connect the blue ignition wire. If an ignition source exists in the connector on the Audio2Car harness the blue ignition wire is connected to this position. If no ignition source is available in the connector then the blue ignition wire is connected to the constant 12v source with a bullet connector. If an ignition source is needed for the chosen carkit IGNIBOX item no. "I" can be inserted to create an artificial ignition source or the blue ignition wire can be disconnected from the red constant 12v and manually connected to an ignition source found elsewhere.

5th: Connect the mute wire. If a Mute input exists in the connector on the Audio2Car harness the yellow mute wire is connected to this position when delivered. If no Mute input is available in the connector then the yellow mute wire is found close to the male connector fitted with a bullet connector. It can then be manually connected to a mute input. Connecting the mute wire is an option but may be required in some cars to achieve a full mute of all speakers. **Note:** Not all cars are equipped with a mute input.

6th: Check fuse size. The fuse on the Audio2Car cable should not be bigger than the ones used on the wiring loom supplied with the carkit. The fuses on the Audio2Car cable should be replaced with a size similar to the ones supplied with the carkit.
Note: Never exceed the Maximum Fuse size for the Audio2Car cable. See first page.

7th: Connect the carkit adaptor (or Drive & Talk Mute-box). Connect the carkit adaptor to the 24 pin connector on the Audio2Car harness. Connect the carkit adaptor to the carkit.

Troubleshooting Guide

Carkit does not start up. Check if there is 12V between the black and the red wire and also between the black and blue wire, in the 24 pin connector, when the car is started. If there is not 12v on both wires please check the following:

1. If there is supply on the red constant 12v wire but not on the blue ignition wire the car may require an alternative ignition source. See installation step 4.
2. Check that the bullets on the supply wires are properly connected. The supply wires are the red, blue and black wires.
3. Check for a blown fuse on the Audio2Car harness or in the cars fuse-box.

The carkit does not turn off when the key is removed from the ignition barrel. Your carkits needs a real ignition source. Please check the following:

1. Is the blue ignition wire connected to the red constant 12v wire with a bullet connector? If this is the case then there is no ignition supply in the radio connector. See installation step 4.
2. Is there an ignition supply on the blue wire. There should be no voltage on the blue wire when there is no key in the ignition. See installation step 4.

Not all speakers are muted. Try to disconnect the Carkit adaptor (or mute-box) from the Audio2Car harness then turn on the radio and check the following :

1. All speakers keep playing: This is the wrong Audio2Car harness for this car / sound system.
2. Only a few speakers keep playing: The mute wire needs to be connected, see installation step 5 or this is the wrong Audio2Car harness for this car / sound system.
3. All speakers are now muted:
   - Carkits with 1 speaker mute: Some carkits can only mute 1 speaker channel with their build in mute-box. This is normally stated on the label on the carkit adaptor for these carkits, else please check the carkit manual. If a full mute is desired with these carkits, then this can be achieved by either connecting the mute wire, see installation step 5. Or adding a mute-box from our Drive & Talk range.
   - Carkits with 4 speaker mute: (or when Kram mute-box is used): The carkit is defective, please replace the carkit.

Radio will not turn on or not working properly after installation.

1. Please check for a blown fuse at the radio or in the car fuse-box.
2. Remove the Audio2Car harness and connect the radio to the original car connector. If the radio is now working replace the Audio2car harness.

See our complete Radio Mute program on our website
www.kram.dk